

## Alg. 2 Warm Up #13-1

1. Simplify:

a.  $\sqrt{80x^8}$

b.  $(25x^{-6})^{1/2}$

2. Write in vertex form by completing the square.

$$y = x^2 - 10x + 1$$

Answers: Pink rev. WS

1)  $\frac{1}{16x^2}$

7)  $3y^4\sqrt{3x}$

2)  $5x^6$

8)  $(6x - 5y)(6x + 5y)$

3)  $\frac{1}{12x^6y^2}$

9)  $3x(4y^2 - x)$

4)  $\frac{2y^6}{3x^2}$

10)  $2(3x + 1)(x - 2)$

5)  $2\sqrt{6x}$

12) Parent:  $y = x^3$   
Reflect in x-axis,  
Shift Left 3, up 8

6)  $5y^3$

## Answers: Pink rev. WS

13)  $y = (x-4)^2 - 13$

17)  $\frac{x^2 + 5x + 5}{x(x+1)}$

14)  $\frac{1}{x-2}$

15)  $\frac{(x-5)(x+2)}{(x-2)^2}$

18)  $\frac{3x^2 - 14x + 6}{(x+2)(x-5)}$

16)  $\frac{x+5}{2}$

## HW Questions:

4-4. Solve each equation below, if possible, using any strategy. Check with your teammates to see what strategies they chose. Be sure to check your solutions.

a.  $4|8x-2|=8$

b.  $3\sqrt{4x-8}+9=15$

c.  $(x-3)^2 - 2 = -5 \Rightarrow \sqrt{x-3} = \sqrt{-3}$

d.  $(2y-3)(y-2) = -12y+18$

e.  $\frac{5}{x} + \frac{1}{3x} = \frac{4x}{3}$

f.  $|3-7x| = -6$  No Solution  
 $+ \neq -$

g.  $\frac{6w-1}{5} - 3w = \frac{12w-16}{15}$

h.  $(x+2)^2 + 4(x+2) - 5 = 0$

3(6w-1) - 45w = 12w - 16

$$x^2 + 4x + 4 + 4x + 8 - 5 = 0$$

$$x^2 + 8x + 7 = 0$$

$$(x+7)(x+1) = 0$$

4-10. Solve the system of equations shown at right.

$$\begin{cases} 2x + 6y = 10 \\ x = 8 - 3y \end{cases}$$

a. Describe what happened when you tried to solve the system.

b. Draw the graph of the system.

c. How does the graph of the system explain what happened with the equations? Make your answer as clear and thorough as possible.

No Solution

parallel lines.

$$2(8 - 3y) + 6y = 10$$

$$16 - 6y + 6y = 10$$

$$16 \neq 10$$

-13. Simplify each of the expressions below. Express your answers as simply as possible.

a.  $\frac{5x^2 - 11x + 2}{x^2 + 8x + 16} \cdot \frac{x^2 + 10x + 24}{10x^2 + 13x - 3}$

b.  $\frac{6x+3}{2x-3} \div \frac{3x^2-12x-15}{2x^2-x-3}$

c.  $\frac{5m+18}{m+3} + \frac{4m+9}{m+3}$

d.  $\frac{3a^2+a-1}{a^2-2a+1} - \frac{2a^2-a+2}{a^2-2a+1}$

$$\frac{(5x-1)(x-2)}{(x+4)(x+4)} \cdot \frac{(x+6)(x+4)}{(5x-1)(2x+3)}$$

$$\boxed{\frac{(x-2)(x+6)}{(x+4)(2x+3)}}$$

denominators are already the same, so just combine the numerators

$$\frac{a^2 + 2a - 3}{a^2 - 2a + 1}$$

$$\frac{(a+3)(a-1)}{(a-1)(a-1)}$$

Clear your desk for the test.  
Scientific calculator ok.

HW: 4 -

# 7 ---> 14, skip 10 & 13